MDP-A880K

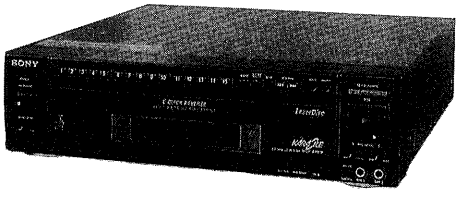
AN-IF3/IFM-VJ3/RMT-M36A

SERVICE MANUAL

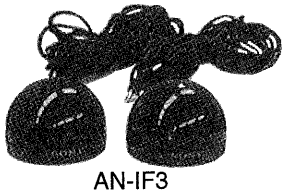
E Model
Chinese Model
Hongkong Model

IFM-VJ3

RMT-M36A



MDP-A880K



AN-IF3

Differences Manual

- Model MDP-A880K is the model added the cordless microphone system function to MDP-A660K. So this manual contains only the points which differ from MDP-A660K.
- Model MDP-A880K is the merchandise which includes the cordless microphone IFM-VJ3 and the infrared sensor AN-IF3 together with the CD/CDV/LD player in one package. Refer to the following Service Manuals for repair work.

MDP-A660K/K50 (9-973-708-11)

Cordless microphone	IFM-VJ3 (9-959-868-11)
Infrared sensor	AN-IF3 (9-959-865-11)

- For the power supply block section, please refer to the MDP-A660K/K50 SUPPLEMENT-1 (9-973-708-81) .

1-413-989-22	POWER BLOCK (E)
1-413-989-42	POWER BLOCK (Chinese, HongKong)

See page 5 for difference list.

☛ : Different portion.

CD/CDV/LD PLAYER

SONY®

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Note for reference page indication in this manual.

See page 4-□□ : Pages on the MDP-A660K/K50
5-□□ service manual.
See page □□ : Pages on this manual.

SAFETY-RELATED COMPONENT WARNING!!

COMPONENTS IDENTIFIED BY MARK ⚠ OR DOTTED LINE WITH MARK ⚠ ON THE SCHEMATIC DIAGRAMS AND IN THE PARTS LIST ARE CRITICAL TO SAFE OPERATION. REPLACE THESE COMPONENTS WITH SONY PARTS WHOSE PART NUMBERS APPEAR AS SHOWN IN THIS MANUAL OR IN SUPPLEMENTS PUBLISHED BY SONY.

CAUTION

Use of controls or adjustments performance of procedures other than those specified herein may result in hazardous radiation exposure.

SAFETY CHECK-OUT

After correcting the original service problem, perform the following safety checks before releasing the set to the customer.

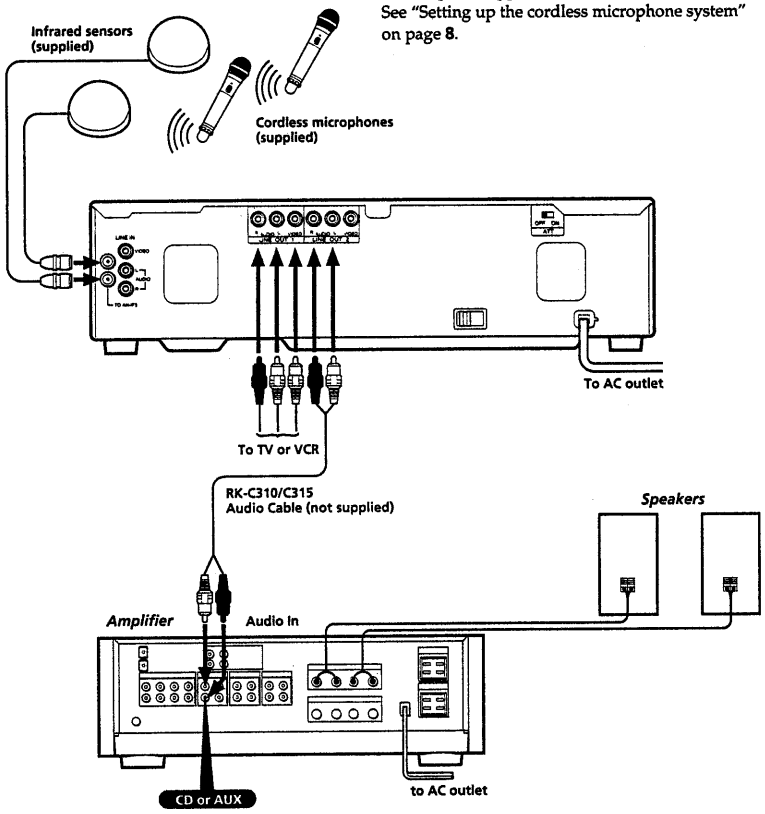
1. Check the area of your repair for unsoldered or poorly-soldered connections. Check the entire board surface for solder splashes and brides.
2. Check the interboard wiring to ensure that no wires are "pinched" or contact high-wattage resistors.
3. Look for unauthorized replacement parts, particularly transistors, that were installed during a previous repair. Point them out to the customer and recommend their replacement.
4. Look for parts which, throught functioning, show obvious signs of deterioration. Point them out to the customer and recommend their replace-ment.
5. Check the B+ voltage to see it is at the values specified.
6. Flexible Circuit Board Repairing
   - Keep the temperature of the soldering iron around 270°C during repairing.
   - Do not touch the soldering iron on the same conductor of the circuit board (within 3 times).
   - Be careful not to apply force on the conductor when soldering or unsoldering.

Connecting the player

Audio equipment hook-up

To achieve full stereo sound from your LD Player, hook up a stereo system following the diagram below. Use an RK-C310 (or RK-C315) Audio Connecting Cable (not supplied) to connect the LD Player to your amplifier or receiver. Before connecting or disconnecting any cables, turn off all equipment.

To play karaoke using the supplied infrared microphone system
Hook up the supplied infrared sensors as shown. See "Setting up the cordless microphone system" on page **8**.



Notes
- Make sure all equipment is turned off before making any of the above connections.
- Firmly insert plugs into the jacks. A loose connection may cause noise.
- When listening to a radio broadcast, turn off the LD Player to get better reception.

Setting up the cordless microphone system

To play karaoke using the omnidirectional infrared microphone system, set up the supplied infrared sensors and cordless microphones following the instructions below.

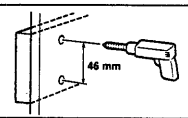
Installing the infrared sensors

Before you start...
- See "Effective range of the infrared rays" and "Sample positioning of the infrared sensors" on the next page to determine where you will place the infrared sensors.
- To prevent any obstacles from obstructing infrared rays, install the infrared sensors in a position as high as possible on the wall, or install them on the ceiling.
- Before you drill holes, check the mounting location and make sure that the wall or ceiling is strong enough to hold the infrared sensor.

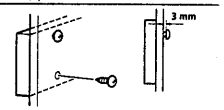
Caution
Choose the mounting location carefully so that the sensors will not fall onto people or furniture in the room. **Sony disclaims any responsibility for injury to persons or other accidents caused by not securing the infrared sensors properly or caused by a poor choice of position of the sensors.**

Notes
- Install the sensors so that the sensor's cable will go straight down. Make sure the cable goes out of the sensor vertically (straight down), not horizontally.
- You can also hang a sensor using only one screw. Drill a hole and secure the screw leaving 3 mm clearance beneath the screw's head. Place the sensor so that the screw's head fits in the hole on the bottom of the sensor, then turn the sensor clockwise until it stops so that the sensor's cable will go straight down.

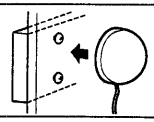
1 **Drill two holes 46 mm apart from each other.**



2 **Secure the screws leaving 3 mm clearance beneath the screw's heads.**

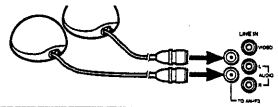


3 **Place the infrared sensor so that the screw's heads fit in the holes on the bottom of the sensor.**

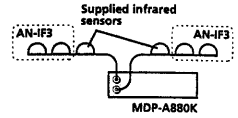


4 **Turn the infrared sensor clockwise until it stops and is secured.**

5 **Connect the infrared sensors to the TO AN-IF3 jacks at the rear of the player.**



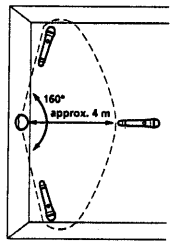
To use more than two infrared sensors
Connect the sensors to the receiver as shown on the right. You can connect up to three sensors to each TO AN-IF3 jack, in series. Use the optional Sony AN-IF3 infrared sensors (2 units per set). Refer to the operating instructions of the AN-IF3 for details.



This section is extracted from instruction manual.

Effective range of the infrared rays

The approximate range of the infrared rays, when a cordless microphone is held horizontally with the infrared emitter part pointing directly towards the sensor, is shown in diagram A. Use the microphones within the allowable range.
Infrared rays will be affected by the positioning of the infrared sensors and by the conditions of the room in which they are used. Try not to put any obstacles between the infrared emitter part of the microphone and the infrared sensors.



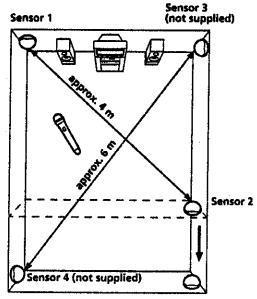
Notes

- The infrared rays cannot penetrate walls or opaque glass. Therefore the microphone and the sensors must be used in "line-of-sight" of each other.
- The infrared sensors can pick up some infrared rays which rebound off the walls and the ceiling. Experiment by rearranging the sensors to find the best positions for them.
- Make sure that the infrared emitter part of the microphone (and the surface of the infrared sensors) is never covered or dirty because either will obstruct infrared rays. If the emitter part (or the surface of the infrared sensors) is dirty, wipe it with a soft, dry cleaning cloth.
- Remove any obstacles between the microphones and sensors.
- If you put the microphone too close to the infrared sensor when you use only one cordless microphone, noise may occur on the other microphone channel. If this happens, move the microphone away from the infrared sensor.

Sample positioning of the infrared sensors (ceiling height: approx. 2.3 m)

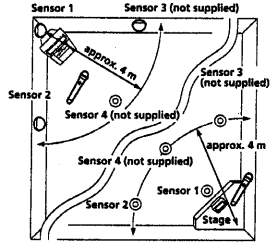
Brightly coloured walls and ceilings reflect infrared rays better

Position two or four infrared sensors (depending on the size of the room), as shown on the right, so that you can use microphones anywhere in the room. When you use more than two sensors, use the optional Sony AN-IF3 infrared sensors (2 units per set).



Dark coloured walls and ceilings do not reflect infrared rays well

You can use microphones within a limited effective range as shown on the right.



Direction of infrared-ray radiation

The gyro-mirror (which moves so that it is always level) in the emitter part of the microphone reflects the infrared rays for a constant supply of audio signals. The direction of the infrared rays depends on the position of the microphone.

Held vertically

Held at an angle

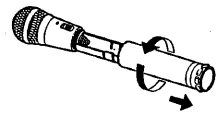
Held horizontally

Preparing the cordless microphones

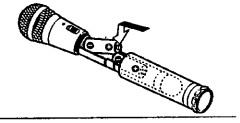
Inserting batteries

Use two R14 (size C) batteries.
Do not use different types of batteries together.

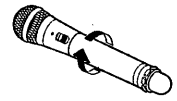
1 **Unscrew the grip part of the microphone and slide it down.**



2 **Insert two R14 (size C) batteries as shown.**



3 **Screw on the grip part of the microphone.**



Tip

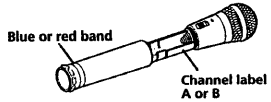
- The color of the band on each cordless microphone (blue or red) corresponds to the color of the indication (1 or 2) above each MIC LEVEL control.

Notes

- Use two R14 (size C) batteries.
- Insert the batteries correctly.
- Do not mix old batteries with new ones, or different types of batteries.
- When the batteries will not be used for a long period of time, remove them from the cordless microphone.
- Should battery leakage occur, wipe the contaminated parts of the battery compartment with a cloth before inserting the new ones.
- Do not recharge the dry batteries.

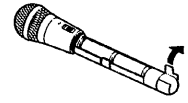
If you detach the grip parts from both microphones

Use the channel label on the microphone to match each grip part with its microphone.
Grip with blue band: A channel microphone
Grip with red band: B channel microphone



Removing the protection seal

A protection seal covers the emitter part of the microphones when they are shipped. Before you use the microphones for the first time, unscrew and remove the grip part, then peel off the protection seal.



If the batteries become weak

If the power indicator on the microphone becomes dim and there is regular interference, replace both batteries. The approximate battery life when the microphone is used continuously is as follows:

Battery type	Battery life
Sony alkaline battery LR14/AM2 (N)	approx. 12 hours
Sony dry cell battery R14P/SUM-2 (NS)	approx. 6 hours

To conserve battery power

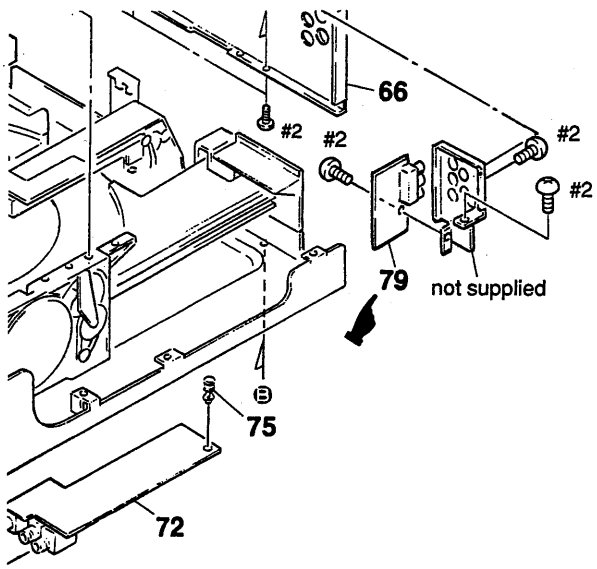
Be sure to turn off the microphones (the power indicator goes off) after using the cordless microphones.

2.DIFFERENCE LIST

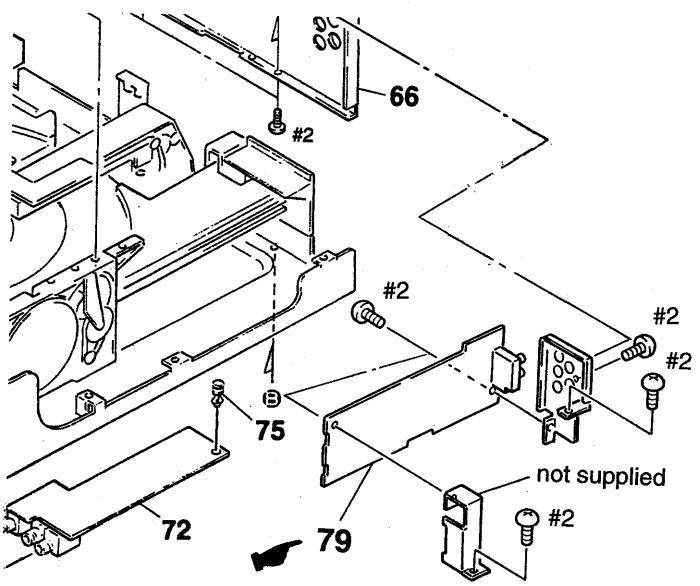
2-1. EXPLODED VIEWS

Page	Ref.No.	Description	MDP-A660K Parts No.	MDP-A880K Parts No.
	1	DOOR ASSY	X-3944-677-1	X-3944-849-1(Chinese) X-3945-028-1(E, Hongkong)
5-1	4	PANEL ASSY, FRONT	X-3944-675-1	X-3945-029-1
	17	PF-744 BOARD, COMPLETE	*A-6423-319-A	*A-6423-343-1
	19	CASE, UPPER	*3-961-785-01	*3-961-785-21
	26	KNOB, VOL	3-962-010-11	3-962-010-21
	#15	SCREW +P2.6×8 TYPE2 NON-SLIT	7-685-134-19	Not used
	#15	SCREW +P2.6×6 TYPE2 NON-SLIT	Not used	7-685-133-19
	60	MB-717 BOARD, COMPLETE	*A-6423-318-A	*A-6423-342-A
	66	PANEL, REAR	*3-961-786-61(E)	*3-961-786-81(E)
5-2			*3-961-786-91 (Chinese, Hongkong)	*3-964-736-11 (Chinese, Hongkong)
	72	MA-711 BOARD, COMPLETE	*A-6423-316-A	*A-6423-341-A
	79	AX-705 BOARD, COMPLETE	*A-6423-317-A	Not used
	79	TUNER BOARD, COMPLETE	Not used	*A-4542-284-A

MDP-A660K



MDP-A880K



ACCESSORIES & PACKING MATERIALS

Page	Ref.No.	Description	MDP-A660K Parts No.	MDP-A880K Parts No.
5-24		MANUAL INSTRUCTION	3-759-925-11 (ENGLISH / CHINESE / SPANISH) (E, Hongkong)	3-798-886-11 (ENGLISH/CHINESE/ SPANISH)(E, Hongkong)
			3-759-925-41 (ENGLISH/CHINESE) (Chinese)	3-798-886-21 (ENGLISH/CHINESE) (Chinese)
		INDIVIDUAL CARTON	*3-961-945-11(E)	*3-964-625-01(E)
			*3-961-945-21(Chinese)	*3-964-625-11(Chinese)
		CUSHION (UPPER)	*3-961-946-01	*3-964-626-01
		CUSHION (LOWER)	*3-961-947-01	*3-964-627-01

1-2. ELECTRICAL PARTS LIST

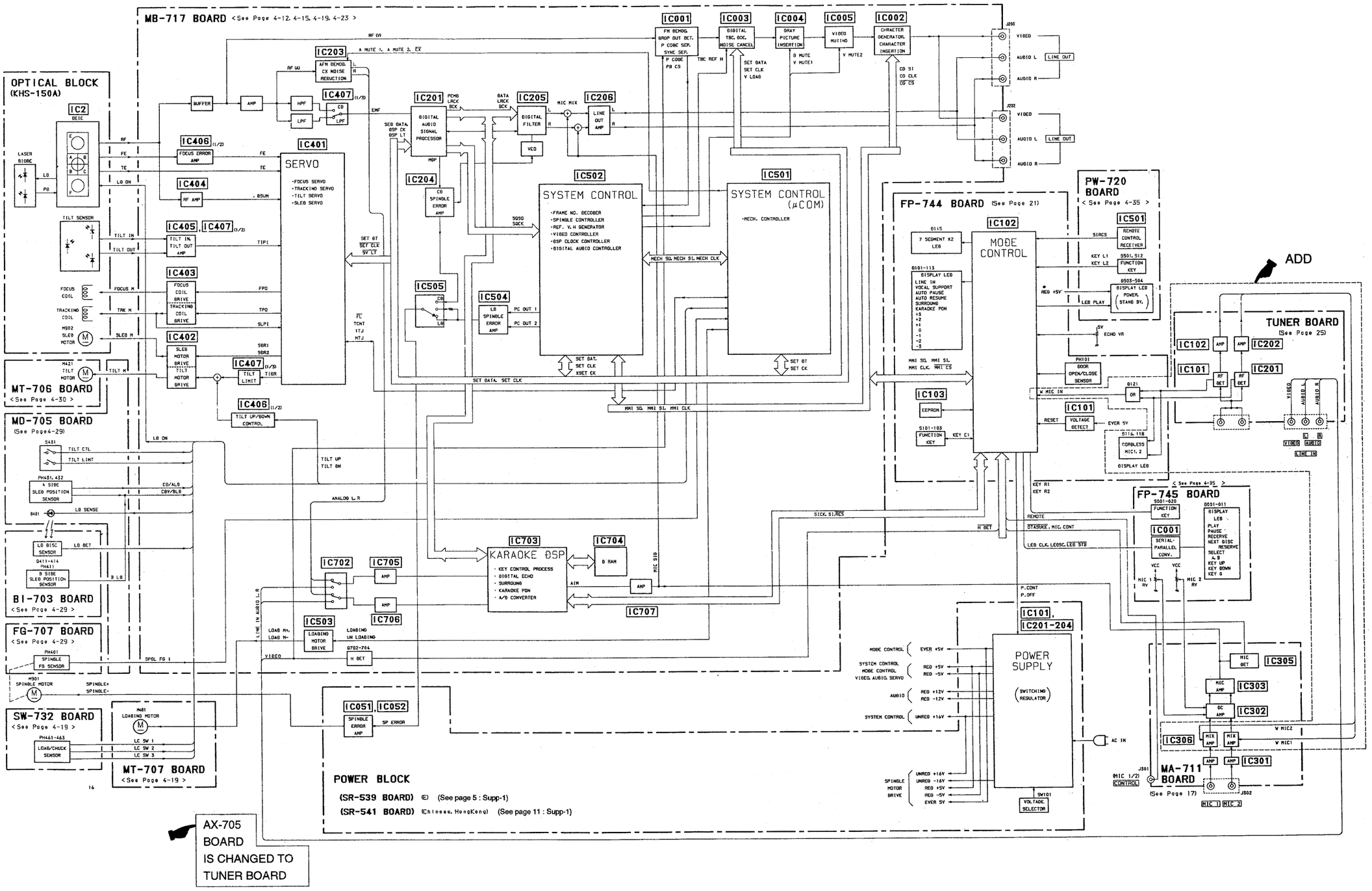
Ref No.	MDP-A660K	MDP-A880K
	*A-6423-319-A FP-744 BOARD, COMPLETE	*A-6423-343-A FP-744 BOARD COMPLETE
CN105	Not used	1-564-013-31 PIN, CONECTOR 3P
D116	Not used	8-719-302-07 DIODE SEL1810A
D118	Not used	8-719-302-07 DIODE SEL1810A
D121	Not used	8-719-914-44 DIODEX DAP202K
R131	1-216-081-00 METAL CHIP 22K 5% 1/10W	1-216-073-00 METAL CHIP 10K 5% 1/10W
R133	1-216-073-00 METAL CHIP 10K 5% 1/10W	1-216-081-00 METAL CHIP 22K 5% 1/10W
R182	Not used	1-216-037-00 METAL CHIP 330 5% 1/10W
R183	Not used	1-216-037-00 METAL CHIP 330 5% 1/10W
R191	1-216-295-91 CONDUCTOR, CHIP(2012)	1-216-081-00 METAL CHIP 22K 5% 1/10W
R197	Not used	1-216-295-00 CONDUCTOR, CHIP
	*A-6423-316-A MA-711 BOARD, COMPLETE	*A-6423-341-A MA-711 BOARD, COMPLETE
C337	Not used	1-163-031-11 CERAMIC CHIP 0.01µF 50V
C338	Not used	1-163-031-11 CERAMIC CHIP 0.01µF 50V
C399	Not used	1-163-115-00 CERAMIC CHIP 82pF 5% 50V
C340	Not used	1-163-115-00 CERAMIC CHIP 82pF 5% 50V
CN301	1-506-486-11 PIN CONNECTOR 7P	1-506-489-11 PIN CONNECTOR 10P
IC306	Not used	8-759-099-06 IC M5218AFP-TE1
R316	1-216-049-91 METAL GLAZE 1K 5% 1/10W	1-216-059-00 METAL GLAZE 2.7K 5% 1/10W
R317	1-216-049-91 METAL GLAZE 1K 5% 1/10W	1-216-059-00 METAL GLAZE 2.7K 5% 1/10W
R322	1-208-813-11 METAL GLAZE 20K 0.5% 1/10W	1-216-081-00 METAL GLAZE 22K 5% 1/10W
R323	1-216-049-91 METAL GLAZE 1K 0.5% 1/10W	Not used
R330	Not used	1-216-053-00 METAL GLAZE 1.5K 5% 1/10W
R331	Not used	1-216-053-00 METAL GLAZE 1.5K 5% 1/10W
R332	1-216-295-91 CONDUCTOR, CHIP(2012)	1-216-053-00 METAL GLAZE 1.5K 5% 1/10W
R333	1-216-295-91 CONDUCTOR, CHIP(2012)	1-216-053-00 METAL GLAZE 1.5K 5% 1/10W
R334	Not used	1-216-295-00 CONDUCTOR, CHIP (2012)
R335	1-216-295-91 CONDUCTOR, CHIP(2012)	1-216-053-00 METAL GLAZE 1.5K 5% 1/10W
R336	Not used	1-216-053-00 METAL GLAZE 1.5K 5% 1/10W
R337	Not used	1-216-265-00 CONDUCTOR, CHIP (2012)
	*A-6423-318-A MB-717 BOARD, COMPLETE	*A-6423-342-A MB-717 BOARD, COMPLETE
R740	1-216-025-91 METAL GLAZE 100 5% 1/10W	1-216-045-00 METAL GLAZE 680 5% 1/10W
R741	1-216-025-91 METAL GLAZE 100 5% 1/10W	1-216-045-00 METAL GLAZE 680 5% 1/10W

- Items "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.

3.BLOCK DIAGRAMS

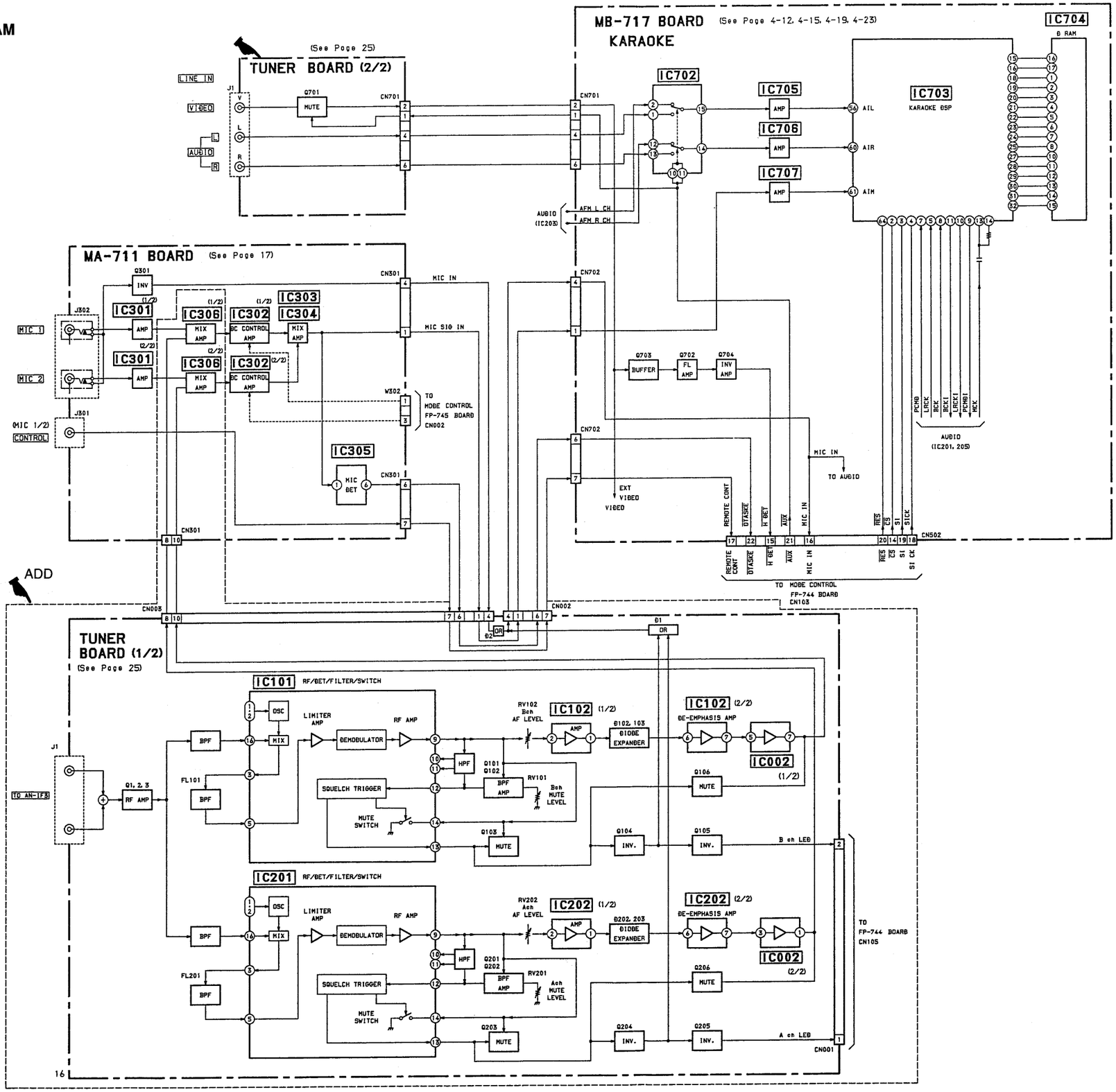
3-1.OVERALL BLOCK DIAGRAM

Pages 3-1 to 3-2



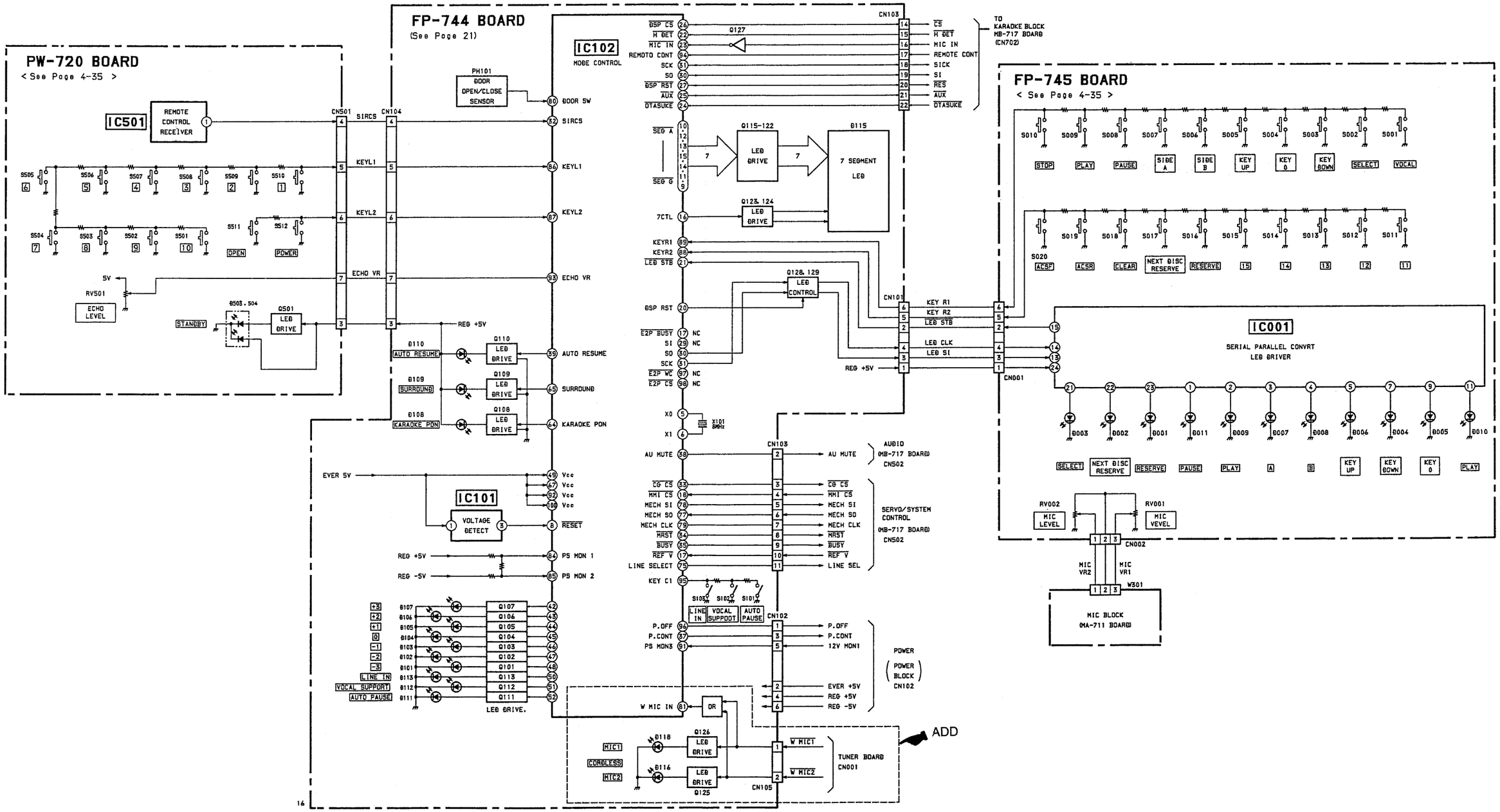
3-2. KARAOKE BLOCK DIAGRAM

Pages 3-8 to 3-9



3-3.MODE CONTROL BLOCK DIAGRAM

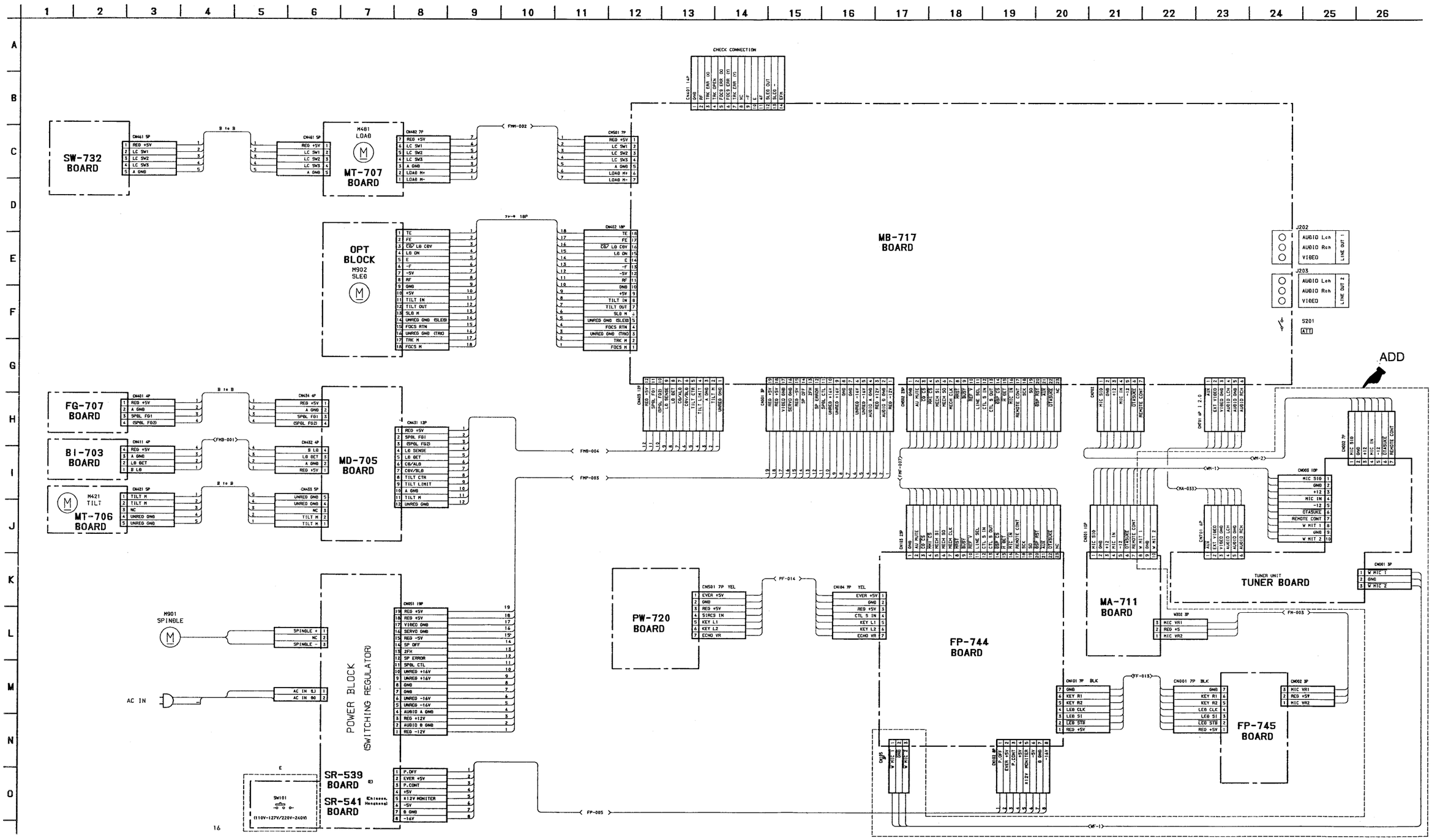
Pages 3-13 to 3-14



4.PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS

4-1.FRAME SCHEMATIC DIAGRAM

Pages 4-1 to 4-2



4-2.PRINTED WIRING BOARD AND SCHEMATIC DIAGRAM

THIS NOTE IS COMMON FOR PRINTED WIRING BOARDS AND SCHEMATIC DIAGRAMS.
(In addition to this, the necessary note is printed in each block.)

For printed wiring boards:

- Through hole indications are omitted.
- ▭ : Pattern from the side which enables seeing.
- ▭ : Pattern of the rear side.*
- Circled numbers refer to waveforms.

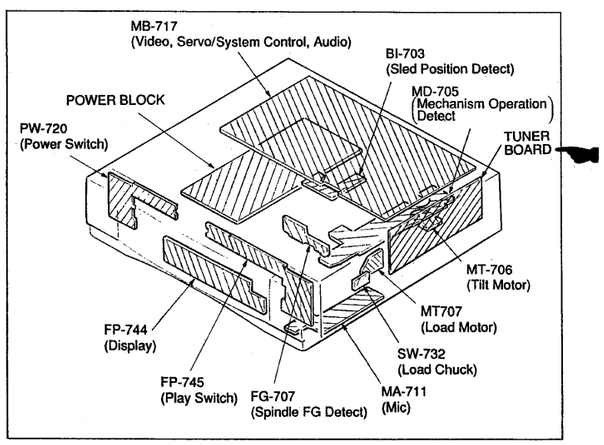
For schematic diagram:

- Caution when replacing chip parts.
  New parts must be attached after removal of chip.
  Be careful not to heat the minus side of tantalum capacitor, because it is damaged by the heat.
- All resistors are in ohms, 1/4 W unless otherwise noted.
  Chip resistors: 1/10 W unless otherwise noted.
  kΩ: 1000Ω, MΩ: 1000kΩ.
- All capacitors are in μF unless otherwise noted. pF: μμF.
  50V or less are not indicated except for electrolytics and tantalums.
- All variable and adjustable resistors have characteristic curve B, unless otherwise noted.
- ▭ : nonflammable resistor.
- ▭ : fusible resistor.
- ▭ : panel designation.
- △ : internal component.
- ▭ : adjustment for repair.*
- ▬ : B+Line.*
- ▬ ▬ : B-Line.*
- ▨ : IN/OUT direction of B line (+, -).*
- Circled numbers refer to waveforms.*
- Voltage are dc between ground and measurement points.*
- Readings are taken with a color-bar signal input.*
- Readings are taken with a digital multimeter (DC10 MΩ).*
- Voltage variations may be noted due to normal production tolerances.*

Note: The components identified by mark ⚠ or dotted line with mark ⚠ are critical for safety.
Replace only with part number specified.

When indicating parts by reference number, please include the board name.

- *: indicated by the color red.

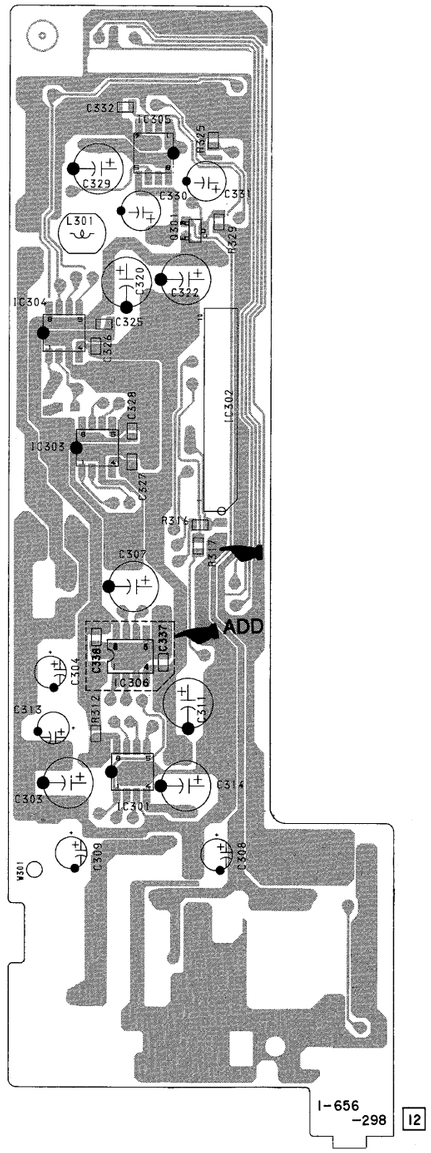


Pages 4-3 to 4-4

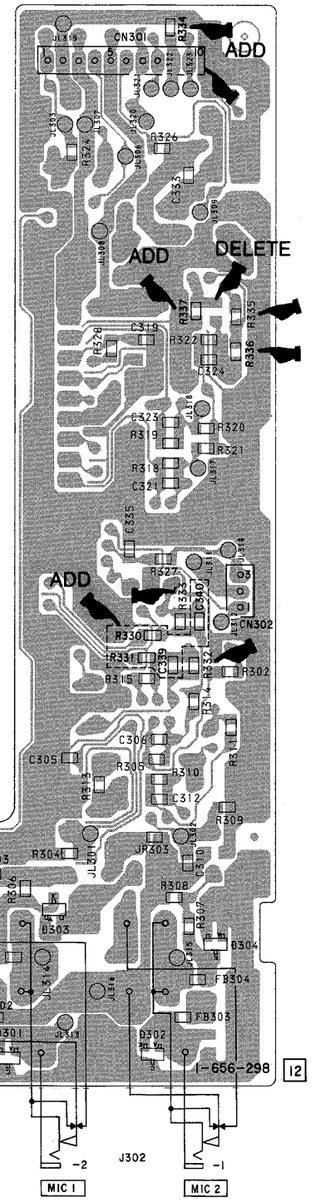
MA-711 (MIC)

— Ref. No. : MA-711 Board; 3,000 Series —

MA-711 BOARD (COMPONENT SIDE)



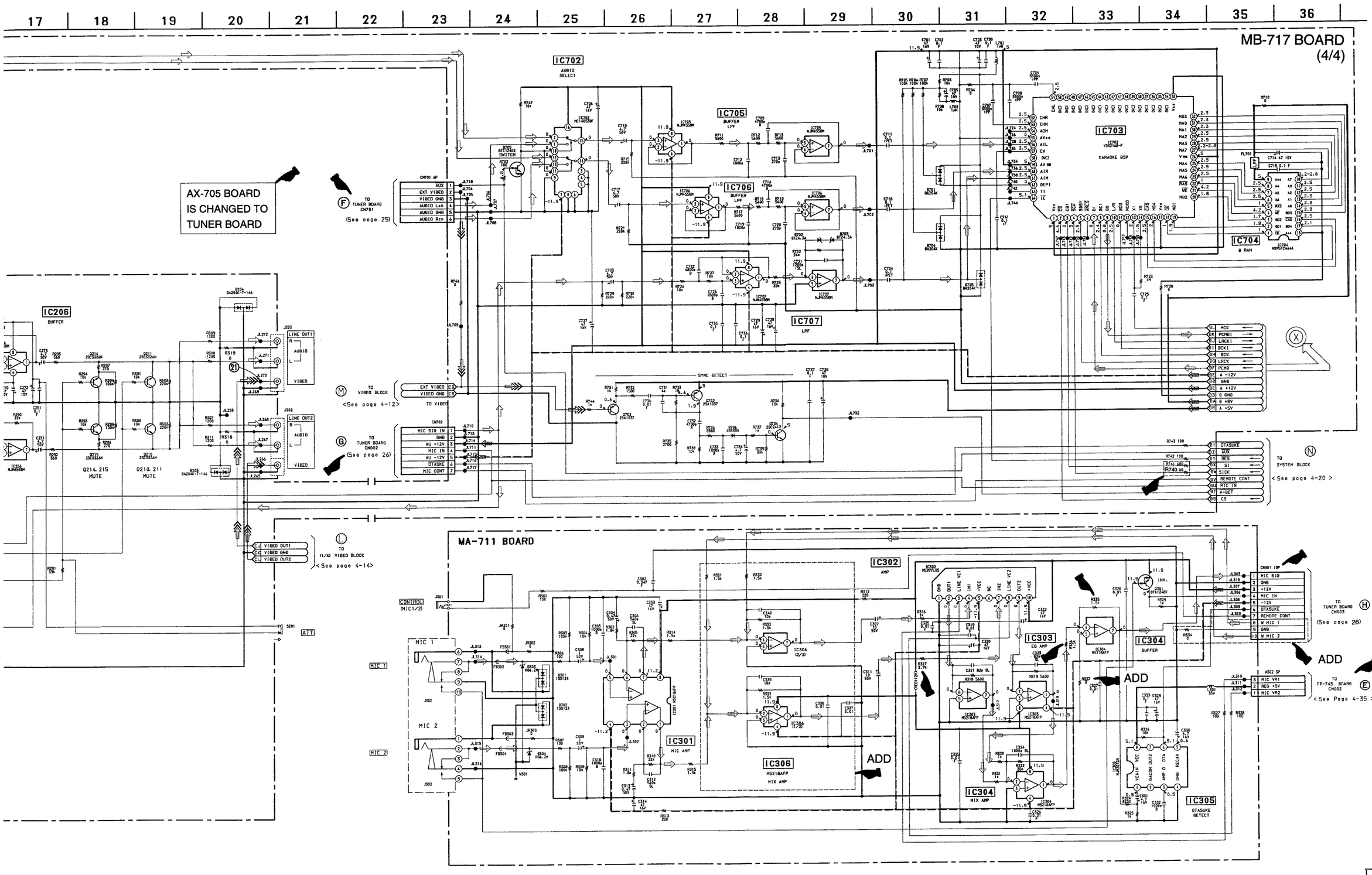
MA-711 BOARD (CONDUCTOR SIDE)



Pages 4-25 to 4-26

MA-711 (MIC)

— Ref. No. : MA-711 Board; 3,000 Series —

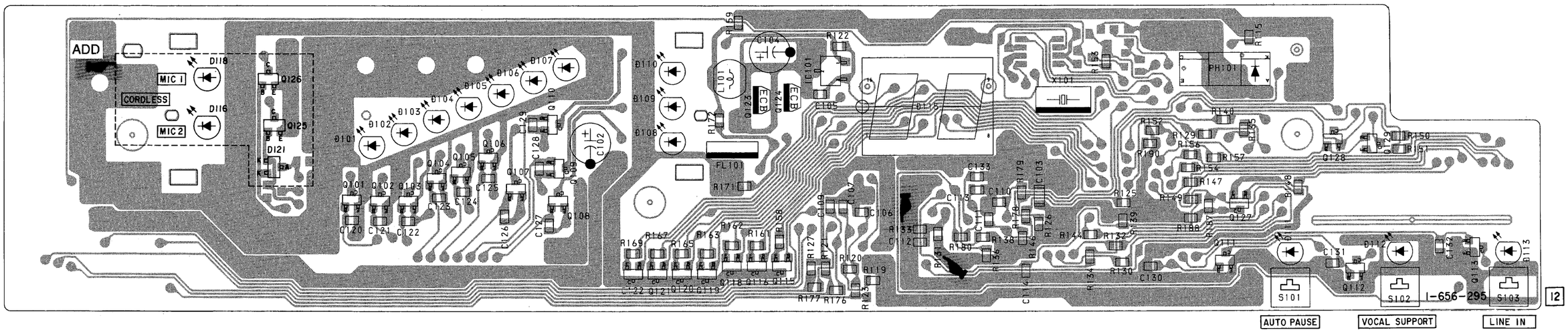


Pages 4-32 to 4-34

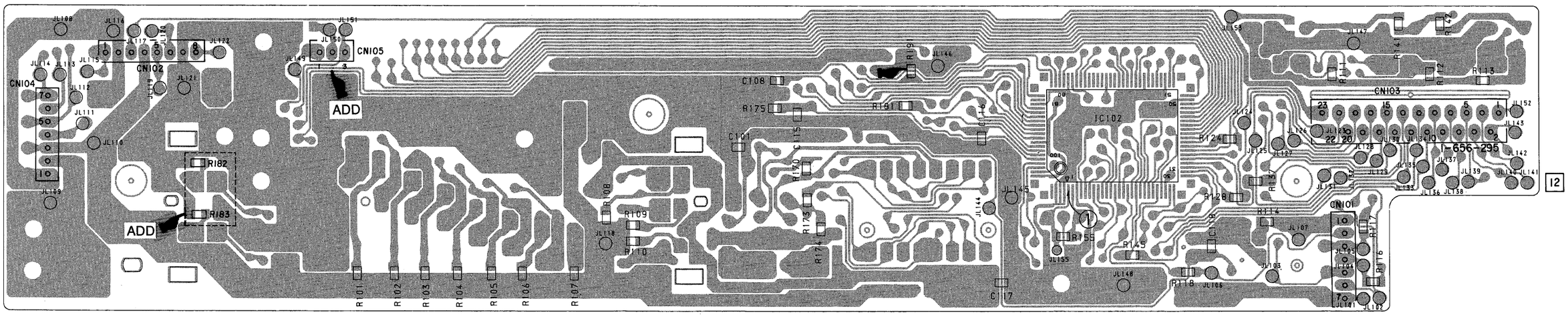
FP-744 (DISPLAY)

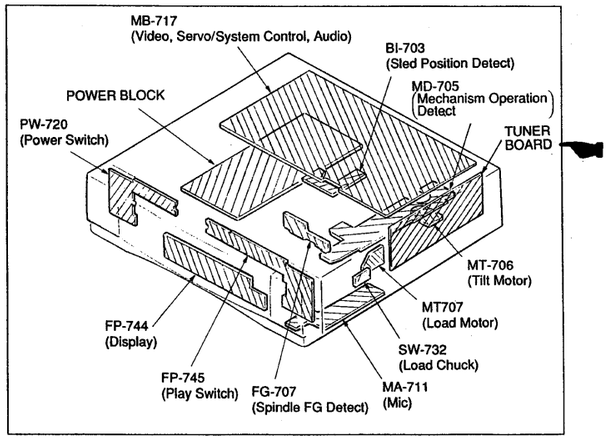
— Ref. No. : PF-744 Board; 3,000 Series —

FP-744 BOARD (COMPONENT SIDE)



FP-744 BOARD (CONDUCTOR SIDE)

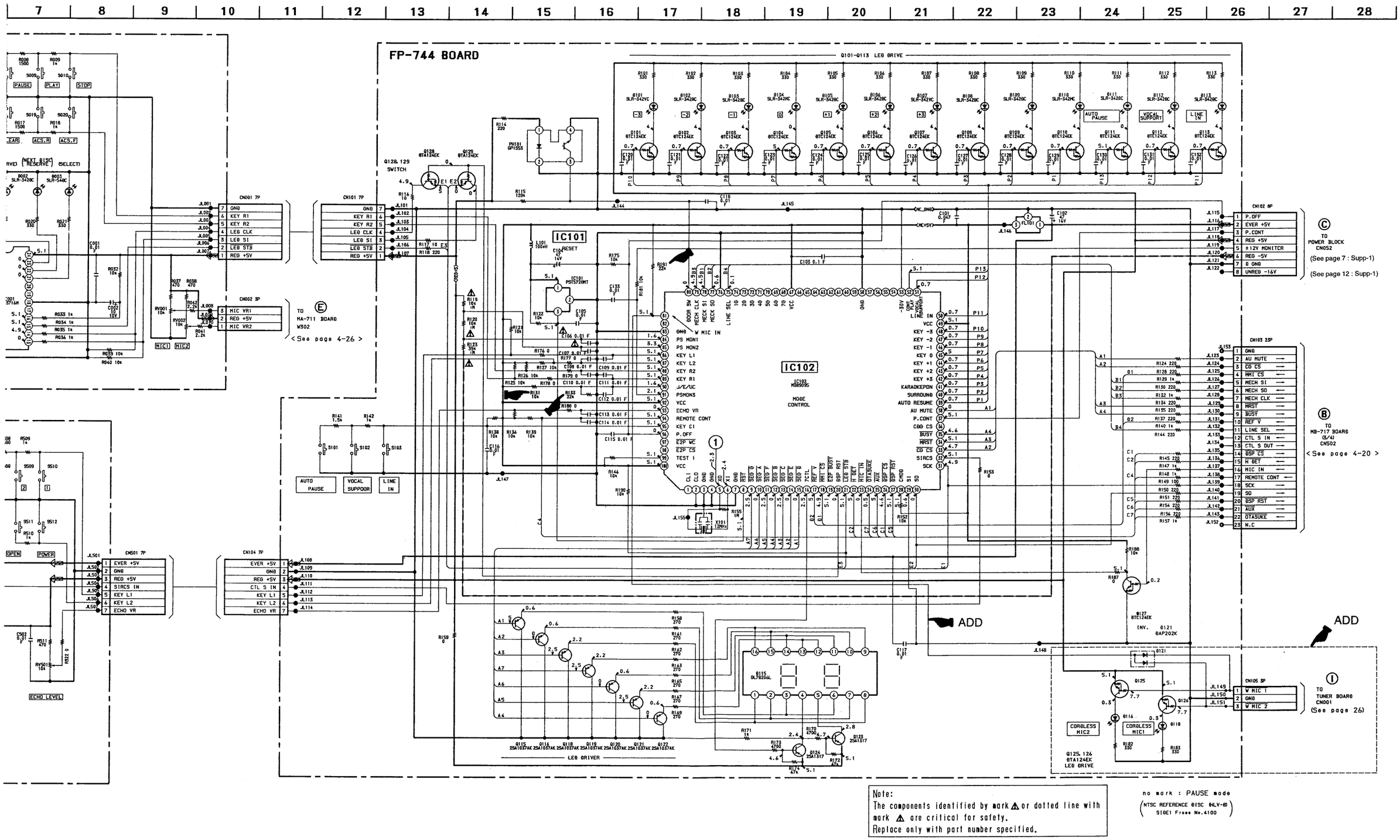




Pages 4-36 to 4-37

PF-744 (DISPLAY)

— Ref. No. : PF-744 Board; 3,000 Series —

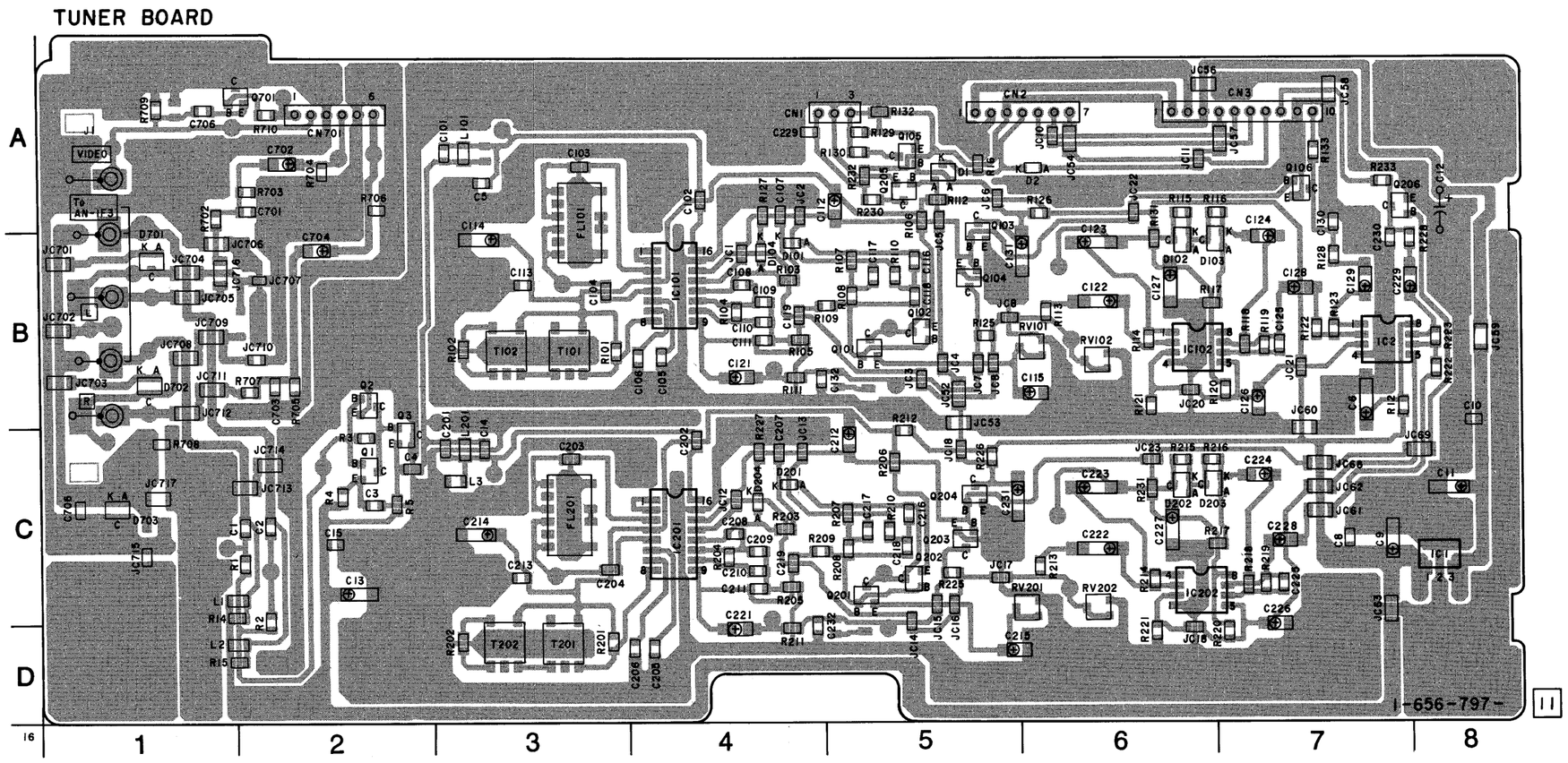


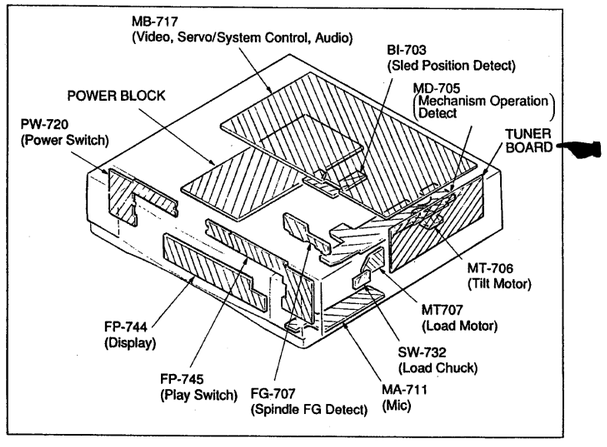
TUNER BOARD

CN001	A-5	IC102	B-6
CN002	A-6	IC201	C-4
CN003	A-7	IC202	C-6
CN701	A-2		
		Q001	C-2
D001	A-5	Q002	B-2
D002	A-6	Q003	C-2
D101	B-4	Q101	B-5
D102	B-6	Q102	B-5
D103	B-6	Q103	B-5
D104	B-4	Q104	B-5
D201	C-4	Q105	A-5
D202	C-6	Q106	A-7
D203	C-6	Q201	C-5
D204	C-4	Q202	C-5
D701	B-1	Q203	C-5
D702	B-1	Q204	C-5
D703	C-1	Q205	A-5
		Q206	A-7
IC001	C-8	Q701	A-2
IC002	B-7		
IC101	B-4		

TUNER BOARD

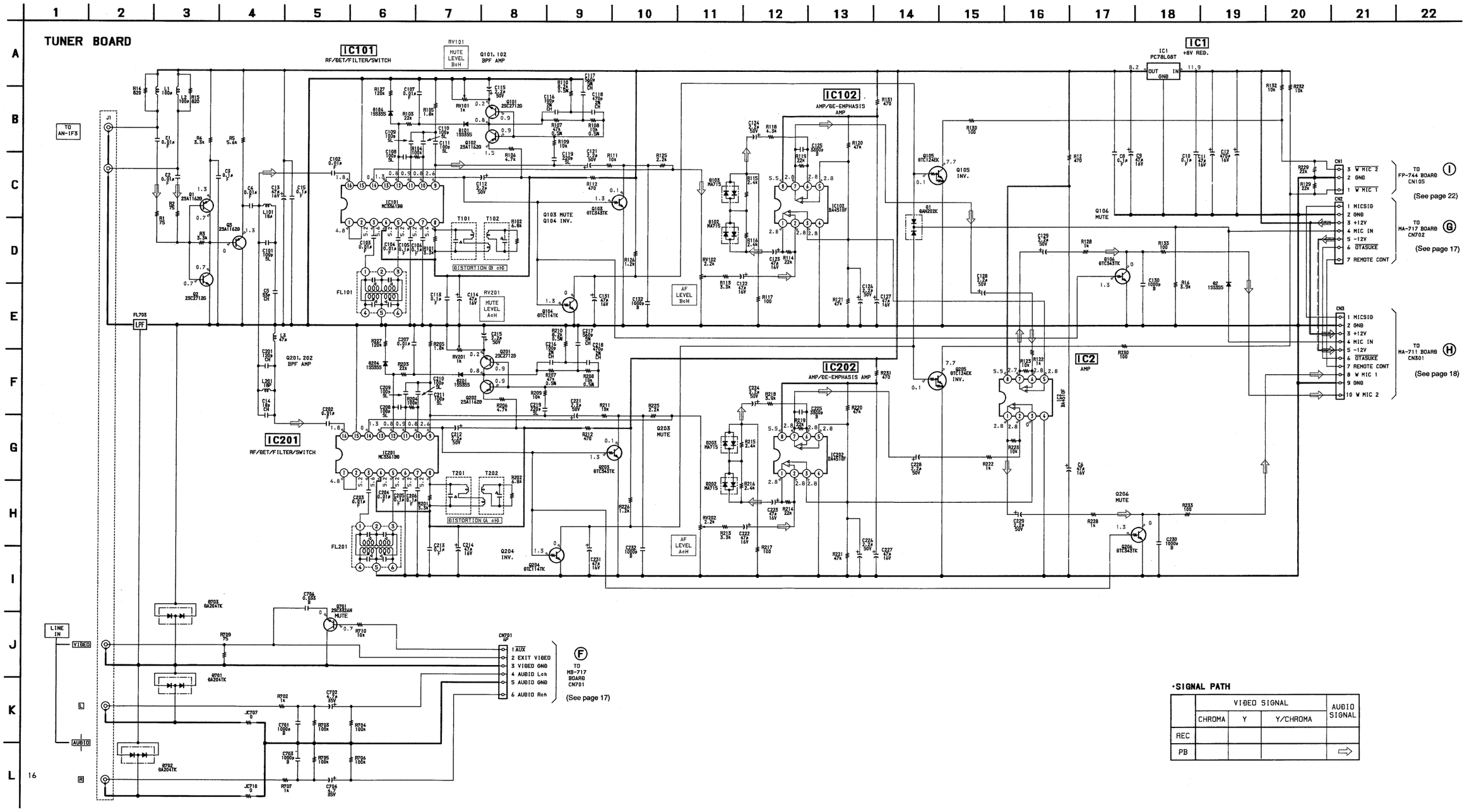
— Ref. No. :TUNER Board; 9,000 Series —





TUNER BOARD

— Ref. No. :TUNER Board; 9,000 Series —



•SIGNAL PATH

	VIDEO SIGNAL			AUDIO SIGNAL
	CHROMA	Y	Y/CHROMA	
REC				
PB				⇨

5.TUNER BOARD ELECTRICAL PARTS LIST

NOTE:

When indicating parts by reference number, please include the board name.

- Due to standardization, replacements in the parts list may be different from the parts specified in the diagrams or the components used on the set.
- -XX, -X mean standardized parts, so they may have some difference from the original one.
- Items marked "*" are not stocked since they are seldom required for routine service. Some delay should be anticipated when ordering these items.
- CAPACITORS:
  uF: μF
- RESISTORS
  All resistors are in ohms.
  METAL: metal-film resistor
  METAL OXIDE: Metal Oxide-film resistor
  F: nonflammable
- COILS
  uH: μH
- SEMICONDUCTORS
  In each case, u: μ, for example:
  uA...: μA... , uPA... , μPA... ,
  uPB... , μPB... , uPC... , μPC... ,
  uPD..., μPD...

Ref. No.	Part No.	Description			Remarks
*	A-4542-284-A	TUNER BOARD, COMPLETE			
		**********			
		(Ref.No.: 9,000 Series)			
		< CAPACITOR >			
C001	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C002	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C003	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C004	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C005	1-163-239-11	CERAMIC CHIP	33PF	5%	50V
C006	1-126-204-11	ELECT CHIP	47uF	20%	16V
C008	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C009	1-126-204-11	ELECT CHIP	47uF	20%	16V
C010	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C011	1-126-204-11	ELECT CHIP	47uF	20%	16V
C012	1-126-941-11	ELECT	470uF	20%	6.3V
C013	1-126-204-11	ELECT CHIP	47uF	20%	16V
C014	1-163-099-00	CERAMIC CHIP	18PF	5%	50V
C015	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C101	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C102	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C103	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C104	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C105	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C106	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C107	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C108	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C109	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C110	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C111	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C112	1-126-601-11	ELECT CHIP	2.2uF	20%	50V
C113	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C114	1-126-204-11	ELECT CHIP	47uF	20%	16V
C115	1-126-601-11	ELECT CHIP	2.2uF	20%	50V
C116	1-162-569-11	CERAMIC CHIP	100PF		
C117	1-163-135-00	CERAMIC CHIP	560PF	5%	50V
C118	1-164-188-11	CERAMIC CHIP	470PF	10%	50V
C119	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C121	1-126-601-11	ELECT CHIP	2.2uF	20%	50V
C122	1-126-204-11	ELECT CHIP	47uF	20%	16V
C123	1-126-204-11	ELECT CHIP	47uF	20%	16V
C124	1-126-601-11	ELECT CHIP	2.2uF	20%	50V
C125	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C126	1-126-601-11	ELECT CHIP	2.2uF	20%	50V
C127	1-126-204-11	ELECT CHIP	47uF	20%	16V
C128	1-126-601-11	ELECT CHIP	2.2uF	20%	50V
C129	1-126-601-11	ELECT CHIP	2.2uF	20%	50V
C130	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C131	1-126-204-11	ELECT CHIP	47uF	20%	16V
C132	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C201	1-163-253-11	CERAMIC CHIP	120PF	5%	50V
C202	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C203	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C204	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C205	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C206	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C207	1-163-031-11	CERAMIC CHIP	0.01uF		50V
C208	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C209	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C210	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C211	1-163-117-00	CERAMIC CHIP	100PF	5%	50V
C212	1-126-601-11	ELECT CHIP	2.2uF	20%	50V
C213	1-163-038-11	CERAMIC CHIP	0.1uF		25V
C214	1-126-204-11	ELECT CHIP	47uF	20%	16V
C215	1-126-601-11	ELECT CHIP	2.2uF	20%	50V
C216	1-162-569-11	CERAMIC CHIP	100PF		
C217	1-163-135-00	CERAMIC CHIP	560PF	5%	50V
C218	1-164-188-11	CERAMIC CHIP	470PF	10%	50V
C219	1-163-125-00	CERAMIC CHIP	220PF	5%	50V
C221	1-126-601-11	ELECT CHIP	2.2uF	20%	50V

Ref. No.	Part No.	Description			Remarks
C222	1-126-204-11	ELECT CHIP	47uF	20%	16V
C223	1-126-204-11	ELECT CHIP	47uF	20%	16V
C224	1-126-601-11	ELECT CHIP	2.2uF	20%	50V
C225	1-164-182-11	CERAMIC CHIP	0.0033uF	10%	50V
C226	1-126-601-11	ELECT CHIP	2.2uF	20%	50V
C227	1-126-204-11	ELECT CHIP	47uF	20%	16V
C228	1-126-601-11	ELECT CHIP	2.2uF	20%	50V
C229	1-126-601-11	ELECT CHIP	2.2uF	20%	50V
C230	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C231	1-126-204-11	ELECT CHIP	47uF	20%	16V
C232	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C701	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C702	1-126-603-11	ELECT CHIP	4.7uF	20%	35V
C703	1-163-009-11	CERAMIC CHIP	0.001uF	10%	50V
C704	1-126-603-11	ELECT CHIP	4.7uF	20%	35V
C706	1-163-034-00	CERAMIC CHIP	0.033uF		50V
		< CONNECTOR >			
CN001	1-564-013-31	PIN, CONNECTOR 3P			
CN002	1-506-486-11	PIN, CONNECTOR 7P			
CN003	1-506-489-11	PIN, CONNECTOR 10P			
CN701	1-506-485-11	PIN, CONNECTOR 6P			
		< DIODE >			
D001	8-719-914-43	DIODE DAN202K			
D002	8-719-988-62	DIODE 1SS355			
D101	8-719-988-62	DIODE 1SS355			
D102	8-719-049-64	DIODE MA715-TX			
D103	8-719-049-64	DIODE MA715-TX			
D104	8-719-988-62	DIODE 1SS355			
D201	8-719-988-62	DIODE 1SS355			
D202	8-719-049-64	DIODE MA715-TX			
D203	8-719-049-64	DIODE MA715-TX			
D204	8-719-988-62	DIODE 1SS355			
D701	8-719-914-42	DIODE DA204K			
D702	8-719-914-42	DIODE DA204K			
D703	8-719-914-42	DIODE DA204K			
		< FILTER >			
FL101	1-233-259-11	FILTER, BAND PASS (B)			
FL201	1-233-258-11	FILTER, BAND PASS (A)			
		< IC >			
IC001	8-759-150-64	IC uPC78L08T			
IC002	8-759-298-70	IC BA4510F-T1			
IC101	8-759-056-30	IC MC3361BD			
IC102	8-759-298-70	IC BA4510F-T1			
IC201	8-759-056-30	IC MC3361BD			
IC202	8-759-298-70	IC BA4510F-T1			

Ref. No.	Part No.	Description			Remarks
		< JACK >			
J001	1-537-917-11	TERMINAL BOARD (LINE IN/TO AN-IF3)			
		< JUMPER RESISTOR >			
JC001	1-216-295-00	CONDUCTOR, CHIP (2012)			
JC002	1-216-295-00	CONDUCTOR, CHIP (2012)			
JC003	1-216-295-00	CONDUCTOR, CHIP (2012)			
JC004	1-216-295-00	CONDUCTOR, CHIP (2012)			
JC005	1-216-295-00	CONDUCTOR, CHIP (2012)			
JC006	1-216-295-00	CONDUCTOR, CHIP (2012)			
JC007	1-216-295-00	CONDUCTOR, CHIP (2012)			
JC008	1-216-295-00	CONDUCTOR, CHIP (2012)			
JC009	1-216-295-00	CONDUCTOR, CHIP (2012)			
JC010	1-216-295-00	CONDUCTOR, CHIP (2012)			
JC011	1-216-295-00	CONDUCTOR, CHIP (2012)			
JC012	1-216-295-00	CONDUCTOR, CHIP (2012)			
JC013	1-216-295-00	CONDUCTOR, CHIP (2012)			
JC014	1-216-295-00	CONDUCTOR, CHIP (2012)			
JC015	1-216-295-00	CONDUCTOR, CHIP (2012)			
JC016	1-216-295-00	CONDUCTOR, CHIP (2012)			
JC017	1-216-295-00	CONDUCTOR, CHIP (2012)			
JC018	1-216-295-00	CONDUCTOR, CHIP (2012)			
JC019	1-216-295-00	CONDUCTOR, CHIP (2012)			
JC020	1-216-295-00	CONDUCTOR, CHIP (2012)			
JC021	1-216-295-00	CONDUCTOR, CHIP (2012)			
JC022	1-216-295-00	CONDUCTOR, CHIP (2012)			
JC023	1-216-295-00	CONDUCTOR, CHIP (2012)			
JC051	1-216-296-00	METAL CHIP	0	5%	1/8W
JC052	1-216-296-00	METAL CHIP	0	5%	1/8W
JC053	1-216-296-00	METAL CHIP	0	5%	1/8W
JC054	1-216-296-00	METAL CHIP	0	5%	1/8W
JC056	1-216-296-00	METAL CHIP	0	5%	1/8W
JC057	1-216-296-00	METAL CHIP	0	5%	1/8W
JC058	1-216-296-00	METAL CHIP	0	5%	1/8W
JC060	1-216-296-00	METAL CHIP	0	5%	1/8W
JC061	1-216-296-00	METAL CHIP	0	5%	1/8W
JC062	1-216-296-00	METAL CHIP	0	5%	1/8W
JC063	1-216-296-00	METAL CHIP	0	5%	1/8W
JC068	1-216-296-00	METAL CHIP	0	5%	1/8W
JC069	1-216-296-00	METAL CHIP	0	5%	1/8W
JC701	1-216-296-00	METAL CHIP	0	5%	1/8W
JC702	1-216-296-00	METAL CHIP	0	5%	1/8W
JC703	1-216-296-00	METAL CHIP	0	5%	1/8W
JC704	1-216-296-00	METAL CHIP	0	5%	1/8W
JC705	1-216-296-00	METAL CHIP	0	5%	1/8W
JC706	1-216-296-00	METAL CHIP	0	5%	1/8W
JC707	1-216-295-00	CONDUCTOR, CHIP (2012)			
JC708	1-216-296-00	METAL CHIP	0	5%	1/8W
JC709	1-216-296-00	METAL CHIP	0	5%	1/8W

Ref. No.	Part No.	Description			Remarks
JC710	1-216-295-00	CONDUCTOR, CHIP (2012)			
JC711	1-216-296-00	METAL CHIP	0	5%	1/8W
JC712	1-216-296-00	METAL CHIP	0	5%	1/8W
JC713	1-216-296-00	METAL CHIP	0	5%	1/8W
JC714	1-216-296-00	METAL CHIP	0	5%	1/8W
JC716	1-216-296-00	METAL CHIP	0	5%	1/8W
		< COIL >			
L001	1-412-963-11	INDUCTOR (SMALL TYPE)			
L002	1-412-963-11	INDUCTOR (SMALL TYPE)			
L003	1-412-959-11	INDUCTOR (SMALL TYPE)			
L101	1-412-954-11	INDUCTOR (SMALL TYPE)			
L201	1-412-954-11	INDUCTOR (SMALL TYPE)			
		< TRANSISTOR >			
Q001	8-729-216-22	TRANSISTOR	2SA1162-G		
Q002	8-729-230-49	TRANSISTOR	2SC2712-YG		
Q003	8-729-216-22	TRANSISTOR	2SA1162-G		
Q101	8-729-230-49	TRANSISTOR	2SC2712-YG		
Q102	8-729-216-22	TRANSISTOR	2SA1162-G		
Q103	8-729-920-31	TRANSISTOR	DTC343TK		
Q104	8-729-902-99	TRANSISTOR	DTC114TK		
Q105	8-729-027-52	TRANSISTOR	DTC124EKA-T146		
Q106	8-729-920-31	TRANSISTOR	DTC343TK		
Q201	8-729-230-49	TRANSISTOR	2SC2712-YG		
Q202	8-729-216-22	TRANSISTOR	2SA1162-G		
Q203	8-729-920-31	TRANSISTOR	DTC343TK		
Q204	8-729-902-99	TRANSISTOR	DTC114TK		
Q205	8-729-027-52	TRANSISTOR	DTC124EKA-T146		
Q206	8-729-920-31	TRANSISTOR	DTC343TK		
Q701	8-729-202-38	TRANSISTOR	2SC3326N-A		
		< RESISTOR >			
R001	1-216-022-00	METAL CHIP	75	5%	1/10W
R002	1-216-022-00	METAL CHIP	75	5%	1/10W
R003	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R004	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R005	1-216-067-00	METAL CHIP	5.6K	5%	1/10W
R012	1-216-041-00	METAL CHIP	470	5%	1/10W
R014	1-216-047-00	METAL CHIP	820	5%	1/10W
R015	1-216-047-00	METAL CHIP	820	5%	1/10W
R016	1-216-063-00	METAL CHIP	3.9K	5%	1/10W
R101	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R102	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R103	1-216-081-00	METAL CHIP	22K	5%	1/10W
R104	1-216-097-00	METAL CHIP	100K	5%	1/10W
R105	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R106	1-216-065-00	METAL CHIP	4.7K	5%	1/10W

Ref. No.	Part No.	Description			Remarks
R107	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
R108	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R109	1-216-073-00	METAL CHIP	10K	5%	1/10W
R110	1-216-673-11	METAL CHIP	8.2K	0.5%	1/10W
R111	1-216-073-00	METAL CHIP	10K	5%	1/10W
R112	1-216-041-00	METAL CHIP	470	5%	1/10W
R113	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R114	1-216-081-00	METAL CHIP	22K	5%	1/10W
R115	1-216-058-00	METAL CHIP	2.4K	5%	1/10W
R116	1-216-058-00	METAL CHIP	2.4K	5%	1/10W
R117	1-216-025-00	METAL CHIP	100	5%	1/10W
R118	1-216-064-00	METAL CHIP	4.3K	5%	1/10W
R119	1-216-081-00	METAL CHIP	22K	5%	1/10W
R120	1-216-089-00	METAL CHIP	47K	5%	1/10W
R121	1-216-089-00	METAL CHIP	47K	5%	1/10W
R122	1-216-049-00	METAL CHIP	1K	5%	1/10W
R123	1-216-073-00	METAL CHIP	10K	5%	1/10W
R125	1-216-057-00	METAL CHIP	2.2K	5%	1/10W
R126	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R127	1-216-099-00	METAL CHIP	120K	5%	1/10W
R128	1-216-049-00	METAL CHIP	1K	5%	1/10W
R129	1-216-081-00	METAL CHIP	22K	5%	1/10W
R130	1-216-025-00	METAL CHIP	100	5%	1/10W
R131	1-216-041-00	METAL CHIP	470	5%	1/10W
R132	1-216-073-00	METAL CHIP	10K	5%	1/10W
R133	1-216-025-00	METAL CHIP	100	5%	1/10W
R201	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R202	1-216-069-00	METAL CHIP	6.8K	5%	1/10W
R203	1-216-081-00	METAL CHIP	22K	5%	1/10W
R204	1-216-097-00	METAL CHIP	100K	5%	1/10W
R205	1-216-055-00	METAL CHIP	1.8K	5%	1/10W
R206	1-216-065-00	METAL CHIP	4.7K	5%	1/10W
R207	1-208-822-11	METAL CHIP	47K	0.5%	1/10W
R208	1-208-806-11	METAL CHIP	10K	0.5%	1/10W
R209	1-216-073-00	METAL CHIP	10K	5%	1/10W
R210	1-216-673-11	METAL CHIP	8.2K	0.5%	1/10W
R211	1-216-073-00	METAL CHIP	10K	5%	1/10W
R212	1-216-041-00	METAL CHIP	470	5%	1/10W
R213	1-216-061-00	METAL CHIP	3.3K	5%	1/10W
R214	1-216-081-00	METAL CHIP	22K	5%	1/10W
R215	1-216-058-00	METAL CHIP	2.4K	5%	1/10W
R216	1-216-058-00	METAL CHIP	2.4K	5%	1/10W
R217	1-216-025-00	METAL CHIP	100	5%	1/10W
R218	1-216-063-00	METAL CHIP	3.9K	5%	1/10W
R219	1-216-081-00	METAL CHIP	22K	5%	1/10W
R220	1-216-089-00	METAL CHIP	47K	5%	1/10W
R221	1-216-089-00	METAL CHIP	47K	5%	1/10W
R222	1-216-049-00	METAL CHIP	1K	5%	1/10W
R223	1-216-073-00	METAL CHIP	10K	5%	1/10W
R225	1-216-057-00	METAL CHIP	2.2K	5%	1/10W

Ref. No.	Part No.	Description			Remarks
R226	1-216-051-00	METAL CHIP	1.2K	5%	1/10W
R227	1-216-099-00	METAL CHIP	120K	5%	1/10W
R228	1-216-049-00	METAL CHIP	1K	5%	1/10W
R229	1-216-081-00	METAL CHIP	22K	5%	1/10W
R230	1-216-025-00	METAL CHIP	100	5%	1/10W
R231	1-216-041-00	METAL CHIP	470	5%	1/10W
R232	1-216-073-00	METAL CHIP	10K	5%	1/10W
R233	1-216-025-00	METAL CHIP	100	5%	1/10W
R702	1-216-049-00	METAL CHIP	1K	5%	1/10W
R703	1-216-097-00	METAL CHIP	100K	5%	1/10W
R704	1-216-097-00	METAL CHIP	100K	5%	1/10W
R705	1-216-097-00	METAL CHIP	100K	5%	1/10W
R706	1-216-097-00	METAL CHIP	100K	5%	1/10W
R707	1-216-049-00	METAL CHIP	1K	5%	1/10W
R709	1-216-022-00	METAL CHIP	75	5%	1/10W
R710	1-216-073-00	METAL CHIP	10K	5%	1/10W
		< VARIABLE RESISTOR >			
RV101	1-238-853-11	RES, ADJ, CERMET 1K			
RV102	1-238-854-11	RES, ADJ, CERMET 2.2K			
RV201	1-238-853-11	RES, ADJ, CERMET 1K			
RV202	1-238-854-11	RES, ADJ, CERMET 2.2K			
		< TRANSFORMER >			
T101	1-411-123-21	COIL, PHASE (B)			
T102	1-411-158-21	COIL, PHASE B2			
T201	1-411-122-21	COIL, PHASE (A)			
T202	1-411-157-21	COIL, PHASE A2			

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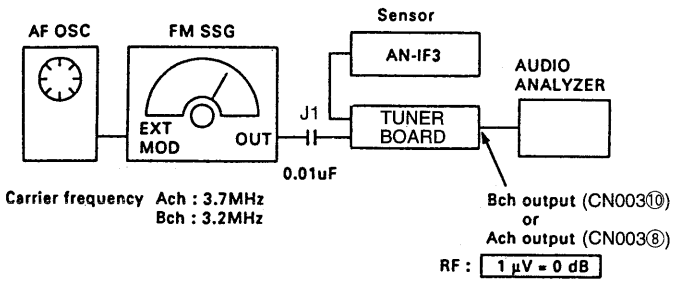
5.ELCTRICAL ADJSUTMENT

Preparation:



	Setting Condition			
	Distortion Adjustment	AF level		Mute level
		Ach	Bch	
Frequency deviation	31.6kHz	27kHz	17kHz	13kHz
Modulation frequency	1kHz	1kHz		34kHz
SSG output level *	70dBµV (3.16mV)	70dBµV (3.12mV)		46dBµV (199.5µV)

* SSG output terminal (50 Ω) is OPEN

Distortion Adjustment

Adjustment:

1. Set the SSG setting condition to the distortion factor adjustment, input signals to the J1, and take the A-ch output from CN003 Pin ⑧, and the B-ch output from CN003 Pin ⑩.

   note : Do not connect the sensor AN-IF3, when adjusing the distortion.

Adjustment Location:

For the tuner board perform adjustment from the conductor side.

2. Adjsut the T101 and T102 for B-ch, and the T201 and T202 for A-ch so that the distortion factor on the oscilloscope monitor becomes minimum.

AF Level Adjustment

Adjustment:

1. Set SSG setting conditions as shown in the table and input signal to J1.
2. Rotate the RV101 and RV201 counterclockwise by 90° to release the MUTE.
3. Connect the AUDIO ANALYZER to the B-ch output or A-ch output.
4. Set the POWER switch ON.
5. Adjust RV102 (Bch) and RV202 (Ach) so that the reading on oscilloscope becomes adjustment value.

   Note: Make sure to perform the Mute level adjustment after the AF level adjustment.

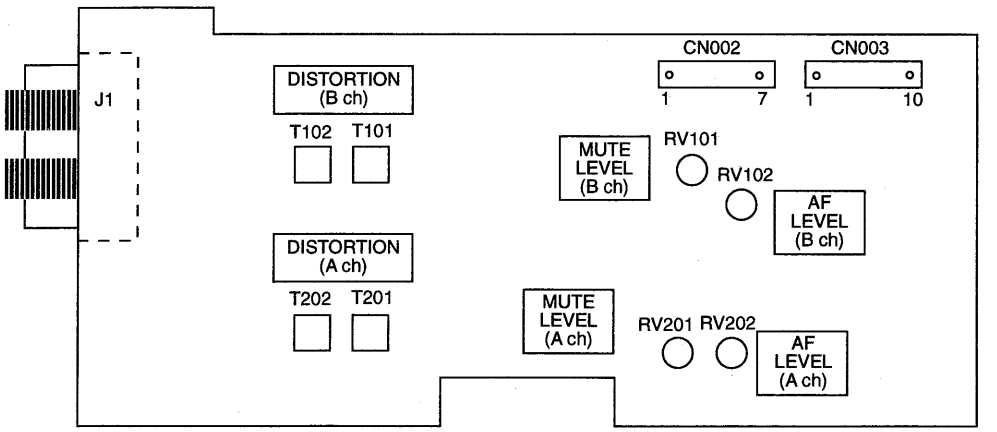
Adjsutment value : 2.0 ± 0.05mV (RMS)

Mute Level Adjustment

Adjsutment:

1. Set SSG setting conditions as shown in the table and input signal to J1.
2. Adjust RV101 (B ch) and RV201 (A ch) so that D116 (B ch) and D118 (A ch)on FP-744 boardis set to the condition immediately before turning off.

TUNER BOARD(CONDUCTOR SIDE)



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